ISLAMIC WORLD ACADEMY OF SCIENCES
2011 DOHA CONFERENCE
on
The Islamic World and the West: Rebuilding Bridges through Science and Technology

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CONFERENCE REPORT[1]

Under the patronage of H E Sheikh Hamad Bin Jassim Bin Jaber Al-Thani, the Prime Minister and Foreign Minister of the State of Qatar, the Islamic World Academy of Sciences (IAS) convened its 18th international science conference in Doha, the capital of the State of Qatar, during 22-24 October 2011. The theme of the conference was *The Islamic World and the West: Rebuilding Bridges through Science and Technology*. The conference was followed by the 9th Doha Interfaith Conference, 24- 26 October 2011 under the title: *Social Media and Inter-Religious Dialogue: A New Relationship*, which was organized by the Doha International Centre for Interfaith Dialogue (DICID).

Held at the Sheraton Hotel, the IAS Conference, which coincided with IAS's 25th Anniversary, was an open activity in which over 200 local and international participants representing over 35 countries participated. Among the participants were 55 Fellows of the IAS, the representatives of 25 academies of sciences from around the world including the Netherlands, Hungarian, Portuguese, American, French and Russian academies of sciences; as well as the majority of academies of sciences of the OIC. Prior to the conference, the 19th Meeting of the General Assembly of the Islamic World Academy of Sciences –in which HRH Prince El-Hassan bin Talal, Founding Patron of the IAS participated- as well as the 37th Meeting of the IAS Council were arranged.

The 18th IAS Conference was organised by:

- Islamic World Academy of Sciences (IAS), Amman, Jordan;
- Permanent Committee for Organising Conferences, Ministry of Foreign Affairs of Qatar; and
- Doha International Centre for Interfaith Dialogue (DICID), Doha, Qatar.

It was sponsored by:

- Islamic Development Bank (IDB), Jeddah, Saudi Arabia;
- OPEC Fund for International Development (OFID), Vienna, Austria;
- OIC Ministerial Committee on Scientific and Technological Co-operation (COMSTECH), Islamabad, Pakistan; and
- Arab Potash Company, Amman, Jordan.

[1] Prepared by Moneef R. Zou'bi, DG, IAS, partly based on a blog by Prof. Nidhal Guessoum.

The conference represented an attempt by the IAS to address relations between the Islamic World and the West in a number of domains. Such relations are constantly being put to the test as national political or developmental problems faced by OIC countries often have an international component of interest to the West. The objectives of the conference thus were:

1) To attempt to gauge events in the Islamic world and how they interact with the science and technology scene;
2) To air the views of scientists and academicians on ways to bridge the divide between the Islamic World and West, particularly through science and scientific and technological collaboration; and
3) To address a number of recurring questions on the History of Islamic Science and Science and Spirituality and how they affect international relations.

The conference was divided in 7 main sessions: Keynotes, Islamic Science, Engineering and Technology (ISSTI V), Science in Action, Science and Health, Nuclear Energy, Role of Academies of Sciences in Bridging International Divides and Science and Spirituality.

The inaugural session of the conference included a welcome statement by the Qatari Deputy Prime Minister and Minister of State for Cabinet Affairs H E Ahmed bin Abdullah al Mahmoud; an address by HRH Prince El-Hassan bin Talal of Jordan, Founding Patron of the IAS; a short statement by Dr Mahathir Mohamad Hon. FIAS, and former Prime Minister of Malaysia; the message of the President of Pakistan to the conference read by Dr M A Mahesar, Assistant Co-ordinator General, COMSTECH; and the opening speech of Dr Abdel Salam Majali, former Prime Minister of Jordan and IAS President.

The first formal session of the conference included a keynote speech by Dr Mahathir Mohamad entitled 'The Islamic World and the West: Towards a Common Understanding through Development;' a presentation by Prof. Farouk El-Baz FIAS, Director of the Center for Remote Sensing at Boston University entitled 'Big Ideas Based on Science for Fast-Track Development: Emphasis on the Case of Egypt;' as well as a presentation by Prof. Atta-ur-Rahman FIAS FRS, the Coordinator General of COMSTECH in Pakistan which carried the title 'Building Bridges with the West through Knowledge Economy.'

In his presentation, Dr Mahathir emphasized the need for the Islamic World to adopt the learning attitude of the West, as the latter diligently learnt from the Islamic world during its golden age. He called for adopting science and mathematics as cores of the educational curricula as well as making every student master at least one European language, especially 'English,' which has become the language of knowledge. Dr Mahathir went on to talk about the international scene and how worldwide crises (of governance, economy, and finance) were occurring everywhere, from Wall Street to Tokyo, including in many Arab countries. He went on to pinpoint an opportunity for the West and the Islamic World to learn from each other: the West can really benefit from the Islamic principles of economy and finance, while the Islamic World can learn from the more rigorous methods of management prevalent in the West.

Prof. El-Baz presented a project he has proposed for Egypt. It consists of building a North-South corridor parallel to the Nile to draw the population away from the Nile basin and thus provide more food and economic opportunities to the ever burgeoning population of Egypt. He highlighted that it was an ambitious project that was similar to

projects built by India to facilitate the flow of humans, goods and services from one part of the country to the other.

Prof Atta-ur-Rahman presented an overview of the activities and achievements of the higher education sector in Pakistan over the previous decade showing in the process some impressive data: the salaries of Pakistan university professors being five times higher than those of federal ministers; linkage between Pakistani universities and western institutions increasing by a factor of around 50, some Pakistani universities climbing to the top-500 list of universities (of the *Times Higher Educational Supplement*); and the multi-million dollar scholarship program that Pakistan had launched for 5,000 students to earn their PhDs in the West.

The IAS has been organizing special sessions within its conferences on the history of Islamic science, engineering and technology. This is an activity that was started with the UNESCO back in 2006. The second session of the conference (ISSTI V) was devoted to addressing a number of issues in this field and included a presentation by Prof. Roshdi Rashed entitled 'Muslim Contribution and the Turning Points in the History of Classical Mathematics;' a presentation entitled 'Discoveries in the Islamic World' by Prof. Ahmed Djebbar, Professor Emeritus, University of Science and Technology, Lille, France; a presentation by Prof. George Saliba of Columbia University in the US entitled 'Unraveling the Mystery of the Decline of Islamic Science: Key Projections on Today's World,' and a fourth presentation by Prof. Charles Falco about the remarkable achievements of Ibn Al-Haytham which was entitled 'Ibn al-Haytham's Contributions to European Civilization.'

Prof. Djebbar demonstrated how the history of Islamic science could be turned into a pedagogical tool, referring in the process to France where a science-education program entitled '*La main à la pâte'* was introduced and championed by the French Physics Nobel Laureate Georges Charpak.

In his presentation, Prof. Saliba presented his 'theory' for the decline of Islamic science. He conceded that a decline took place however he proposed an alternative date for its start namely around the 16th century. He dismissed 'internal' factors, such as the orthodoxy that prevailed after *Ghazzali* or the fallout from the Mongol invasion as major factors contributing to this decline and concluded that the question should not be 'what went wrong' in the Islamic civilization but rather 'what went right" in the West?'

In his presentation, Prof. Charles Falco, talked about Ibn al-Haytham and the importance of his ideas (scientific, artistic, and even theological) in medieval Europe, and how they have permeated thereto.

The first session on the second day included a presentation by Prof. Adnan Badran FIAS, the former Prime Minister of Jordan, entitled 'The Science and Technology and Human Rights Nexus in the Arab/Islamic World,' in which he claimed that countries that violate human rights tend to fall behind in science and technology and become stricken with instability, unemployment and poverty. Prof. Abdallah Schleifer, Professor Emeritus, at the AUC in Cairo, presented a paper entitled 'Revisiting the Issue of Media and Religion in the Arab/Islamic World.' He talked about the rapid spread of Internet in the Arab world, hailed as 'citizen journalism,' and the rise of Salafi Arab satellite television that has frequently encouraged intolerance not only against other religions but also against the Sufi dimension of traditional mainstream Islam.

On the other hand, the former president of the Republic of Kyrgyzstan Prof. Askar Akaev FIAS presented an exciting talk entitled the 'Prediction of the Second Wave of the Global Crisis that has Turned out to be True,' in which he talked about a series of science-based predictions he had made about the world's economic crises. He cited a list of possible sources for the respective risks that governments need to be aware of

including the economic crisis in the US and Europe, adding that the rise in world prices of food commodities, energy resources and other raw materials may lead to further sociopolitical tensions and the slowing down of economic growth at the world level.

The following session included one keynote which was entitled 'Discovery of Nitric Oxide and Cyclic GMP in Cell Signaling and Their Role in Drug Development,' by the Nobel Laureate Prof. Ferid Murad Hon. FIAS, 1998 Nobel Prize Laureate (Medicine), who has recently joined the Department of Biochemistry and Molecular Biology, George Washington University, USA.

That was followed by a session on 'Science and Health,' which included the first Ibrahim Memorial Lecture entitled 'Wartime Surgical Judgment,' presented by the 2009 Awardee: Dr Faris Gavrankapetanovic, General Manager, Clinical Center, University of Sarajevo, Bosnia and Herzegovina; and the second Ibrahim Memorial Lecture entitled 'Molecular and Genetic Basis of Human Deafness in Pakistani Population,' presented by the 2011 Awardee: Dr Saima Riazuddin, Adjunct Associate Professor, National Centre of Excellence in Molecular Biology (CEMB), Lahore, Pakistan. Prof. Abdel Latif Ibrahim FIAS, Director, Institute Bio-IT Selangor, Malaysia, and Co-ordinator of IAS activities in Malaysia, presented the third talk in the session on 'Bridging the Gap between Islamic Countries and the West in Research and Development through Partnership and Networking.'

The session on 'Nuclear Energy' included a circulated presentation by Prof. Abdul Qadeer Khan FIAS, Fellow of Pakistan Academy of Sciences, Pakistan, entitled 'Nuclear Energy for World Peace,' and a presentation entitled 'Energy Security in the Islamic World: Is Nuclear Power the Answer?' by Prof. Mehmet Ergin FIAS, Vice – President, IAS, and Prof. Reşat Uzmen, AMR Minerals and Minor Metals Inc., Turkey. The third presentation entitled 'Nanosciences-Nanotechnology: An Ultimate STI Platform for the Developing World,' was given by Prof. Malik Maaza FIAS, iThemba LABS-National Research Foundation of South Africa, while the fourth was entitled 'Energy Education and Research, a Forum for Cooperation between Lebanon and European Institutions,' and presented by Prof. Nesreen Ghaddar FIAS, Professor of Mechanical Engineering, American University of Beirut (AUB), Lebanon.

The 'Role and Functions of Academies of Sciences in Bridging International Divides' was the theme chosen by the conference organising committee for an exciting session which was organised in the afternoon of the second day in which the representatives of no less than ten academies of sciences from around the world including the French, American, Malaysian, Albanian and the Russian academies of sciences presented short overviews of their academies and their respective outlooks for the future. The session included a keynote address by Prof. Pieter Drenth, Honorary President, European Federation of National Academies of Sciences and Humanities (ALLEA), The Netherlands, entitled 'Bridging Political, Cultural and Religious Divides: The Role of Academies of Sciences and Humanities.'

The session which was presided over by Prof. A H Zakri FIAS (Malaysia) and Prof. M H A Hassan (TWAS/Sudan) aimed to compare the different models of academies of sciences that exist worldwide; the Soviet style academy of sciences, the Anglo-Saxon model as well as the international or the global model as classified by the InterAcademy Panel; which includes the Islamic World Academy of Sciences and TWAS and how such entities contribute to bridging political divides between the Islamic World and the West.

Islam's encouragement to seek knowledge has historically led to remarkable results in the fields of Mathematics, Medicine or Optics. A similar effort must be made today, in a context where contemporary science has become a universal heritage around which

all cultures can meet and dialogue. This development of science has led to another type of dialogue bringing forward the birth of a discipline called 'Science and Religion' with Chairs in Oxford and Cambridge universities.

To shed some light on this issue, the IAS and DICID organized a joint session on the third day of the conference in which five invited scholars spoke: Dr Jean Staune, Secretary General of the Interdisciplinary University of Paris, France, on 'Science and Spirituality;' Prof. Mehdi Golshani FIAS of Sharif University of Technology, Iran, on ' Science and Spirituality;' Prof. Nidhal Guessoum, Professor of Physics and Astronomy, American University of Sharjah, UAE, on 'Islam and Modern Science: Conflicts, Independence or Harmony;' Dr Khalil Chamcham, Institute for Particle Astrophysics and Cosmology, University of Oxford, United Kingdom, on 'Science(s) and Religion(s): Critical Remarks for an Islamic Approach;' and Dr Jonathan Crane, Centre of Ethics, Emory University, Atlanta, USA on 'Creation and Jewish Bioethics.'

At the conclusion of the 18th IAS Conference, which also included a number of side-meetings and site visits, the IAS adopted the IAS 2011 Doha Declaration on *The Islamic World and the West: Rebuilding Bridges Through Science and Technology.*

The declaration stressed that despite the political upheaval, military conflict, natural disaster as well as economic boom and bust witnessed by many countries in the Islamic world, the same period witnessed renewed interest by some OIC countries in reinvigorating science and technology (S&T) and higher education, with the launch of a number of top-down initiatives to support education and research in countries such as Qatar, the United Arab Emirates, Saudi Arabia and Jordan.

It reiterated that Islam has been and can be the driving force behind an all-encompassing renaissance in STI for a better tomorrow for Muslims and humanity and that the current low level of achievement in the Islamic world is the cumulative effect of multiple factors and not the result of a single dominant cause. The declaration also highlighted that governance in many OIC countries is in a state of turmoil with polities torn between upholding national security and adopting good governance practices with 2011 witnessing a tsunami of political events sweeping through the Arab region of the Islamic world.

The declaration emphasized that there were significant obstacles to S&T in OIC countries and that despite political and economic uncertainties, OIC countries have no choice but to stimulate STI, together with the education sector, if only to overcome some lingering problems like food, water and energy insecurity as well as to achieve some level of national self-fulfilment. It urged OIC decision-makers to engender commitment to STI at the highest political level, sizeably increase R&D expenditure and take action to ensure that young scientists cultivate a sense of hope. Future generations must be educated and not indoctrinated, they must learn – and not be taught – to work hard, to identify role models in science and life that they can emulate, and learn to work together rather than as individuals, the declaration emphasized. It also called for more female scientists to be involved in S&T activities at all levels in the OIC.

The declaration also called for an institutional framework to be created –perhaps in the form of an independent merit-based national academy of sciences- to give advice to decision-makers on scientific issues. It highlighted the fact that students –at the university level- must be integrated rather than segregated especially from the science and literary streams so that future political leaders from the various academic backgrounds appreciate the value of science as a means of socioeconomic advancement.

The declaration called for revisiting the narrative for the rise and decline of Islamic science historically and for uncovering the contribution that the Islamic civilization has

made to world civilization in order to learn from the lessons of the past and, in today's tensions ridden world, promote harmony between cultures and peoples by highlighting how historically civilizations have all been interdependent**.**

The declaration highlighted that –in the Islamic world in particular- a stumbling block/unnecessary divide exists in the public mindset between science and religion and called for deeper forms of reflection on the essentially harmonious relationship between science and religion, through revisiting philosophical traditions, schools of thought prevalent in various traditions, cultures and civilizations.

Lastly, the IAS through the declaration expressed its thanks and appreciation to the State of Qatar and all the organizations and agencies which supported the conference.

As part of the follow-up action to the conference, the Academy will circulate the IAS 2011 Doha Declaration to concerned individuals and relevant agencies throughout OIC and developing countries, so that measures are taken to put into action the ideas proposed at the conference.

The IAS will also publish the complete proceedings of the conference in a quality volume that will be distributed internationally.

Through IAS Fellows, personal contact and correspondence, the IAS will promote the concepts promulgated at the conference among the decision making circles of the Islamic world, and will provide whatever help it can to get the various recommendations implemented.